

Response Under 37 C.F.R. § 1.111
Application No. 10/806,247
Attorney Docket No. 042261

REMARKS

Claims 1-7 are pending in the application.

As a preliminary matter, it is noted that the Office Action did not include *Takeuchi* (US Patent 6,641,696) in the Notice of References Cited (PTO-892). Applicants request the Office Action formally make *Takeuchi* of record in said form.

On the Merits:

Claims 1, 2 and 4-6 were rejected under 35 U.S.C. § 102(b) as being anticipated by *Takeuchi* (US Patent 5,641,696). In addition, claims 3 and 7 were rejected under 35 U.S.C. § 103(a) as being obvious over *Takeuchi* in view of *Taka et al.* (US Patent 4,853,342). These rejections are respectfully traversed.

Takeuchi discloses, a first ion-implantation is carried out at an acceleration energy 60keV and a dose $3 \times 10^{15}/\text{cm}^2$ (column 10, lines 13-19) and a second ion-implantation is carried out at an acceleration energy 30keV and a dose $5 \times 10^{14}/\text{cm}^2$ (column 10, lines 38-42).

In contrast, in claim 1 of the present application, when ion-implanting extension regions, a first ion-implantation is carried out at a low acceleration energy and a high dose ($E_L D_H$) and a second ion-implantation is carried out at a high acceleration energy and a low dose ($E_H D_L$).

That is, in *Takeuchi*, a first ion-implantation is a high acceleration energy and a high dose ($E_H D_H$), and a second ion-implantation is a low acceleration energy and a low dose ($E_L D_L$). Therefore, claim 1 of the present application differs from *Takeuchi* and is not anticipated.

Furthermore, *Takeuchi* discloses to introduce phosphorus (P) at the second ion-implantation.

In contrast, in claim 1 of the present application, an n-type impurity (arsenic (As) for example) having less diffusive characteristic than phosphorus (P) is ion-implanted at both first and second ion-implantations. Therefore, in this respect, claim 1 of the present application also differs from *Takeuchi* and is not anticipated.

When ion-implanting extension regions, with using an n-type impurity having less diffusive characteristic than phosphorus (P), a first ion-implantation is carried out at $E_L D_H$ and a second ion-implantation is carried out at $E_H D_L$ so that a concentration profile as in Fig. 1B for example can be obtained. Because the main structure of *Takeuchi* is absolutely different from that of the present invention in the first place, the invention in claim 1 of the present application differs from *Takeuchi*. Thus, the present application is not anticipated.

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Taka et al. fails to provide the teachings which *Takeuchi* lacks.

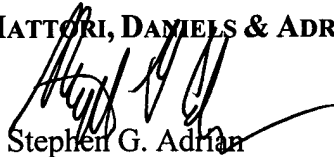
In view of the aforementioned arguments, applicants submit that the claims are currently in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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